AMENDED CLAIMS
[received by the International Bureau on 28 October 2002 (28.10.02);
original claims 1 and 19 amended;
remaining claims unchanged (3 pages)]

1. A method of performing link quality estimation of a TDMA-based wireless communication link between a mobile station (10) and a target base station (16a-c), wherein the mobile station (10) receives a signal on a channel frequency of the target base station (16a-c), **characterised by** the following steps, executed in the mobile station:
- measuring a link quality of the received signal, and simultaneously identifying the target base station (16a-c) in parallel with the measurement based on the same received signal, and
- qualifying the measurement as valid if the mobile station (10) has succeeded to identify the target base station (16a-c) based on the received and measured signal, or
- discarding the measurement if the mobile station (10) has failed to identify the target base station (16a-c) based on the received and measured signal.

2. A method according to claim 1, wherein the mobile station (10) is connected to a serving base station (14) and the target base station (16a-c) is a neighbouring base station, **characterised by** the further step of reporting the qualified measurement by the mobile station (10) to the serving base station (14).

3. A method according to claim 2, **characterised in** that the mobile station (10) is directed by the serving base station (14) in a measurement order to select a measuring and identifying scheme for performing the steps of measuring and identifying, wherein the scheme is pre-programmed in the mobile station (10).

4. A method according to any of claims 1 - 3, **characterised in** that the received signal is measured with respect to at least

16. A method according to claim 12, wherein the received signal includes contributions from a plurality of unsynchronised target base stations transmitting on the same frequency channel, **characterised in** that the steps of measuring and identifying are performed with respect to one target base station at a time sequentially for at least two of the target base stations.

17. A method according to claim 12, wherein the received signal includes contributions from a plurality of synchronised target base stations transmitting on the same frequency channel, **characterised in** that the steps of measuring and identifying are performed with respect to the target base stations for at least two of the synchronised target base stations jointly in one operation.

18. A method according to any of claims 1 - 17, **characterised in** that the qualified measurement is used for at least one of: performing base station selection for serving the mobile station (10) in idle or busy mode, estimating cell relations and determining the position of the mobile station (10).

19. A mobile station (10) including means for receiving a signal on a channel frequency of a target base station (16a-c) for performing link quality estimation of a TDMA-based wireless communication link with the target base station (16a-c), **characterised in** that the mobile station (10) further includes:

- means for measuring a link quality of the received signal and for simultaneously identifying the target base station (16a-c) in parallel with the measurement based on the same received signal,
- means for qualifying the measurement as valid if the mobile station (10) has succeeded to identify the target base

station (16a-c) based on the received and measured signal, and

means for discarding the measurement if the mobile station (10) has failed to identify the target base station (16a-c) based on the received and measured signal.

20. A mobile station (10) according to claim 19, wherein the mobile station (10) is connected to a serving base station (14) and the target base station (16a-c) is a neighbouring base station, **characterised in** that the mobile station (10) further includes means for reporting the qualified measurement by the mobile station (10) to the serving base station (14).

21. A mobile station (10) according to claim 20, **characterised in** that the mobile station (10) further includes at least one pre-programmed measuring and identifying scheme, wherein the mobile station (10) is directed by the serving base station (14) in a measurement order to select a measuring and identifying scheme.

22. A mobile station (10) according to any of claims 19 - 21, **characterised in** that the measuring means measures the received signal with respect to at least one of: received signal strength (RSS), carrier-to-interference power ratio (C/I), carrier power and bit error rate (BER).

23. A mobile station (10) according to any of claims 19 - 22, **characterised in** that the identifying means detects an identity of the target base station (16a-c) included in the received signal.

24. A mobile station (10) according to any of claims 19 - 22, **characterised in** that the identifying means estimates a training sequence included in the received signal, wherein